

# CHINCH BUGS ARE OLD PEST

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**W**HEN one follows the developments of interest in the various ailments and pests of golf course turf over a period of years he finds certain more or less definite periods in which the general interest in a particular pest is at a peak. These periods of greatest interest in a pest naturally accompany and follow a period of unusual injury. Interest declines as soon as information on the subject is widely distributed even though the damage may continue to be great.

For the past year there has been an unusual interest in chinch bugs. This is not because these bugs are new pests on turf but because they have been unusually abundant on golf courses during the past two summers. Many individuals have gained the impression that the chinch bug presents a new threat to golf clubs which may be expected to increase its range and damage in a manner similar to the Japanese beetle.

The chinch bug however is by no means new in this country nor is it a new pest to golf courses. As a matter of fact the chinch bug was thriving on our native grasses when Indian braves chased buffaloes over the very ground where many of our palefaces (with or without their war-paint) now chase golf balls.

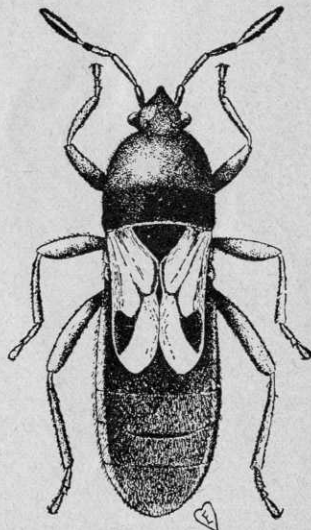
When the white man plowed under the native grass stands and planted corn and other cereals the chinch bug heartily approved the change and moved over to the grain field to enjoy a new era of prosperity. There it became notorious as an agricultural pest and has received the persistent attention of entomologists and other agricultural scientists as well as the farmers for many years.

## Chinch Bug Busy in 1925

The chinch bug has been recognized for years as a pest of golf course turf in the south, especially in Florida. In the April, 1926, number of the Bulletin of the USGA Green Section it was stated that "reports of its attacks on bent and bluegrass turf were received in the summer of 1925 from Massachusetts and Missouri." During the summers of 1933 and 1934 chinch bug damage occurred on golf courses in various districts of the middle west and the east-

ern states. Some damage from these insects has undoubtedly occurred on golf turf for many years but it has been overlooked and most likely much of it has been mistaken for some other type of injury covered by the loose use of the terms "brownpatch" and "scald." The history of chinch bug injury on golf courses is therefore not clear and one cannot safely predict its future. However since the story of the bug on farm crops is only too well known one can safely figure out about what to expect it to do in turf.

Outbreaks of chinch bugs have occurred throughout the middle west as long as corn



Short-winged stage of the chinch bug  
(greatly magnified.)

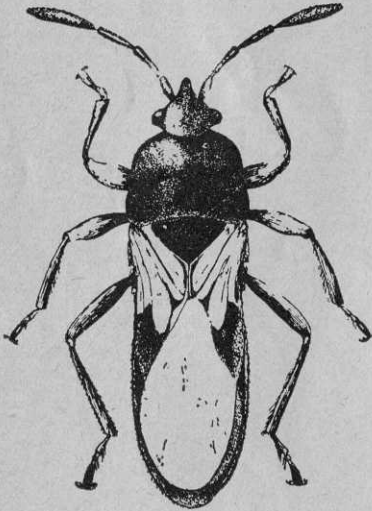
has been grown there. The magnitude of these outbreaks varies decidedly and in most sections the outbreaks occur at intervals of from 5 to 10 years. In some states, especially parts of Illinois, Missouri and Kansas, some damage from these bugs is expected every year.

## Fights Bugs with Bucks

Favorable weather for the development of these bugs includes excessive drought and absence of rain during spring months. Under such conditions the bugs multiply rapidly and huge numbers of them spread

over large districts. Such a condition existed in the 90's and much chinch bug damage occurred. Recent favorable climatic conditions resulted in 1934 in what was claimed to be the severest infestation of chinch bugs on record throughout the states of the middle west as far north as Minnesota and Michigan. To help fight this unusual epidemic of chinch bugs Congress appropriated \$1,000,000. This appropriation among other things provided free to the farmers 5½ million gallons of creosote and half a million gallons of gas tar for the making of barriers to prevent the wingless bugs from migrating from grass and grain fields into corn fields. An estimated total of more than 53,000 miles of barrier were maintained against these bugs last year.

Chinch bugs when fully grown are small, winged insects, not more than 1/5-inch in length. The wings have black and white



Long-winged stage of chinch bug  
(greatly magnified)

markings. The very young bug is small and red with a transverse band of white. As it grows it sheds its skin five times and with each change the color becomes darker. In the last stage before wings develop the chinch bug is a grayish black with conspicuous white markings on its back. In these early stages of growth the bug is obliged to walk from plant to plant but in the adult stage it is provided with wings and can fly. There are two forms of chinch bugs, one with long wings, and the other with short wings. It is not uncommon during the summer months to find bugs in the various stages of development

in the same piece of turf. They have a strong, repugnant odor which will help to distinguish them from many of the small bugs sometimes found in turf.

#### Feed Only On Grassy Plants

Chinch bugs over-winter as adults under the shelter of grasses, leaves, the bark of trees or other cover. They usually leave their winter quarters about the time greenkeepers start their spring work on golf courses. When they get to their new feeding grounds the chinch bugs start to lay eggs. One female chinch bug is said to lay from 100 to 300 eggs, which hatch in from 1 to 6 weeks, depending on the temperature. There are two generations each season.

Chinch bugs feed only on plants belonging to the grass family. They are sucking insects—that is, they obtain their food supply in the well known manner of the mosquito. Therefore this bug prefers a grass which has a good supply of sap flowing through it and is forced to migrate from plants that shrivel from drought. The common chinch bug much prefers small grains to wild grasses during such periods when these plants are growing rapidly. When grain and hay are harvested the bugs turn to corn for their nourishment and their concentration on corn fields at such times may be devastating. Recent studies of chinch bugs indicate that the one which is most common on golf courses is not identical with the notorious bug the farmer dreads. However the greenkeepers' variety or species of chinch bug has the same general characteristics and habits as does the farmers' bug. It most likely is affected by climatic conditions in much the same manner and can be expected to be unusually troublesome some years and then of little importance for many years at a time.

On golf courses chinch bugs seem to prefer the bents to the other grasses of northern golf courses. In the south they occur on Bermuda grass and have been observed to be particularly troublesome on St. Augustine grass. They seem to choose certain varieties of grass in preference to others of the same species. At the Arlington turf garden and on some golf courses where varieties have been growing side by side they have shown a decided preference for certain strains of velvet bent and for seaside creeping bent. They are most abundant in areas of bent that are neglected and not given special putting green care. They are most likely to be numerous on the sod nursery of a golf

course, and on the approaches and borders of putting greens.

**Identifying Chinch Bug Injury**

Chinch bug injury in turf becomes apparent when the grass begins first to turn yellow and later to become shriveled and brown. Since chinch bugs usually occur in colonies the affected areas are likely to be fairly well defined, more or less circular areas, which are therefore likely to be confused with brown-patch or scald. A close examination of the turf especially near the borders of the infested areas will usually disclose the bugs feeding on the grass just above the soil level.

The prevalence of chinch bugs is largely dependent on weather conditions, especially during the hatching of the eggs. These periods are usually from April to the middle of June and again from the middle of July to the middle of September. Heavy driving rains may destroy large numbers of young bugs or may cover the eggs with mud and prevent their hatching. These heavy rains may also prevent the female from laying her full quota of eggs. During warm damp weather such as is favorable for brown-patch development a certain white fungus which is the most destructive natural enemy of the chinch bug is able to develop so rapidly that it can keep the bug under control. Entomologists have observed that where such weather conditions occur during the hatching periods, this fungus has so reduced the number of chinch bugs that they proved of little importance.

**Control Methods**

Most of the methods used in fighting the chinch bug on farms cannot be applied to golf courses. One method which in a few cases may be helpful on golf courses is burning, during the late winter or early spring, of the deep grass and cover under which the adults have hibernated. This procedure naturally is only partially effective since there are usually other areas nearby from which some adult chinch bugs may fly onto the course. Various sprays have been found to be partially effective. A spray which has been recommended against these bugs consists of one-half ounce of 40 per cent nicotine sulphate and two ounces of soap, all dissolved in a gallon of water. To be effective this material must come in contact with the bugs. This is extremely difficult where the bugs are sheltered by a thick mat of turf; therefore the spray must be applied with a good pressure and with great care to cover

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Redouble your efforts to get this man as the Club Managers Association needs his dues check.

**REWARD:** Many new ideas and valuable fellow Club Manager contacts to the person bringing in this man's dues check, dead or alive.

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J. FRED SMITH, Secretary,  
Club Managers Association of America  
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Columbus, O.

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all of the infested area. Certain sprays and dusts of derris, rotenone, and pyrethrum are also effective if properly applied.

The heavy infestation of chinch bugs throughout large areas of the country has provided a population of bugs that presents a serious threat of damage to turf during the coming summer. On the other hand the past winter and particularly the cold, rainy weather that has prevailed during this spring in much of the infested regions may have so reduced the numbers of chinch bugs that it may be difficult to find them in turf this summer.

At the same time it will be wise to avoid the tendency to label any mysterious browning of turf that may develop during the summer as due to chinch bugs just because they have been in the limelight of late.